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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,408	03/30/2001	J. Britton Zabka	08479-39460	8759

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DeWitt M. Morgan  
Rodey Dickason Sloan Akin & Robb  
P.O. Box 1888  
Albuquerque, NM 87103-1888

EXAMINER
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CHANG, AUDREY Y

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 09/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	Application N .	Applicant(s)	
	09/823,408	ZABKA, J. BRITTON	
	Examiner	Art Unit	
	Audrey Y. Chang	2872	

-- Th MAILING DATE of this communication appears on the cover sheet with th correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 12, 15-20, 23-35, 37 and 38 is/are pending in the application.
- 4a) Of the above claim(s) 2-9, 23, 24 and 27-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 12, 15-20, 25, 26, 37 and 38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Remark*

- This Office Action is in response to applicant's amendment filed on July 9, 2002, which has been entered as paper number 4.
- By this amendment, the applicant has amended claims 1, 12, 15, and 26 and has canceled claims 10-11, 13-14, 21-22, and 36.
- Claims 1-9, 12, 15-20, 23-35 and 37-38 remain pending in this application.

### *Election/Restrictions*

1. Applicant's election with traverse of invention I and species I (claims 1, 12, 15 and 16) in Paper No. 4 is acknowledged. The traversal is on the ground(s) that species II (claims 2-9) will not be operable without the amended feature in claim 1. This is not found persuasive because if such is the case, namely the two features are inseparable and interdependent from each other, then such should be claimed. Yet the claims as stand now fail to give support for the interdependency.

The requirement is still deemed proper and is therefore made **FINAL**.

2. Claims 2-9, 23-24 and 27-35 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 4.

3. Claims 1, 12, 15-20, 25-26 and 37-38 are treated as the elected claims.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 15, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by the patent issued to Sharnoff et al (PN. 5,216,527).

Sharnoff et al teaches a holographic collation that records *dual image holographically* on a *photographic emulsion* (19) serves as the *recording medium*, wherein the collation comprises a *laser* (1), serves as the *source of coherent light*, a *beamsplitter* (5) serves as the *means* for *dividing* the light from light source into an object beam (7) and a reference beam (6), each having a beam path, an *object* (31) serves as the *means* for *positioning* an image in the object beam path for recordation, a *plateholder* implicitly included for holding the recording medium, a *beamsplitter* (8) serves as the *means* for dividing the reference beam (6) into a *plurality of reference beams* (9 and 10) each having a reference beam path that intersects with the object beam path to record interference pattern between each of the reference beams and the object beam as the holograms. Sharnoff et al teaches that the collation further comprises a *plurality of shutter means* that includes a *shutter* (12) in the *object beam path* and a *plurality of shutters* (11 and 13) in the reference beam paths, (please see Figures 1, 5-7, columns 1, and 7-9).

This reference has met all the limitations of the claims with the exception that it does not call the holographic collation as a holographic *printer*. However, it has been held that a recitation with respect to the manner in which a claimed apparatus is *intended to be employed* does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Madham, 2 USPQ2d 1647 (1987). Furthermore, an intended use clause found in the preamble of an apparatus claim is not afforded the effect of a distinguishing limitation unless the body of the claim sets forth structure which refers back to, is defined by or otherwise draws life and breadth from the preamble. (In re Casey, 152 USPQ 235). Thus, a preamble is denied the effect of limitation where the claim is drawn to a

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structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. (Ex Parte Mott 190 USPQ 311).

With regard to claim 15, Sharnoff et al teaches that the shutters (11 and 13) may be *sequentially* opened to record the interference patterns with the object beam on the recording medium, (please see column 18). The shutter (12) controls the object beam is opened correspondingly with the opening of the reference beam shutters. The control means are therefore implicitly included.

With regard to claim 25, Sharnoff et al teaches that the phase and intensity of the plurality of reference beams may be modulated, (please see columns 1 and 19).

This reference has therefore anticipated the claims.

#### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Sharnoff et al.**

The dual hologram images recording apparatus taught by Sharnoff et al as described for claim 1 above has met all the limitations of the claims. Sharnoff et al teaches that a plurality of shutters is used to control the switching ON and OFF of the object beam and the plurality of reference beams. However this reference does not teach explicitly that the shutters are of non-mechanical means and comprise solid-state means. However optical shutter such as liquid crystal shutter, which is known solid state means and non-mechanical, is very standard and well-known shutter means in the art. The shutters of Sharnoff et al may

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have already been a liquid crystal type or the modification of replacing them by a liquid crystal type shutters would have been obvious to one skilled in the art for the benefit of easy control.

8. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Sharnoff et al in view of the patent issued to Hart (PN. 6,151,143).

The dual hologram images recording apparatus taught by Sharnoff et al as described for claim 1 above has met all the limitations of the claims. Sharnoff et al teaches an object is used to generate the object information for the object beam but it does not teach explicitly that either of a transparency or of a liquid crystal panel provides the object information. *Hart* in the same field of endeavor teaches an apparatus for making holograms wherein data slice, which may be transparency type, for projecting the data to a liquid crystal light valve (442, Figures 3 and 7) to provide the object information to the object beam is disclosed. It would then have been obvious to one skilled in the art to apply the teachings of Hart to use either a transparency or a liquid crystal panel as alternative means for providing object information to the object beam for the benefit of providing a variety of object information to be recorded.

9. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Sharnoff et al in view of the patent issued to Psaltis et al (PN. 5, 671,073).

The dual hologram images recording apparatus taught by Sharnoff et al as described for claim 1 above has met all the limitations of the claims. This reference teaches that the phase and intensity of the plurality of light beams may be modulated but it does not teach explicitly that the modulation means is a cylindrical lens. However cylindrical lens has been applied in the art to modulate the light beam to shift it to certain spot or location of the recording medium to provide desired multiplexing or slit image as taught by *Psaltis* et al wherein a cylindrical lens (20) is used to modulate the reference beam to provide shift-selectivity, (please see column 11). It would then have been obvious to one skilled in the art to apply the

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teachings of Psalitis et al to modify the recoding apparatus of Sharnoff et al for the benefit of providing desired modulation to reference beams to provide desired shift-selectivity of the recording apparatus.

**10. Claims 37-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Sharnoff et al in view of the patent issued to Hart.**

Sharnoff et al teaches a *holographic collation* that records *dual image holographically* on a *photographic emulsion* (19) serves as the recording medium, wherein the collation comprises a *laser* (1), serves as the source of coherent light, a beamsplitter (5) serves as the means for dividing the light from light source into an object beam (7) and a reference beam (6), each having a beam path, an object (31) serves as the means for positioning an image in the object beam path for recordation, a plateholder implicitly included for holding the recording medium, a beamsplitter (8) serves as the means for dividing the reference beam (6) into a plurality of reference beams (9 and 10) each having a reference beam path that intersects with the object beam path to record interference pattern between each of the reference beams and the object beam as the holograms. Sharnoff et al teaches that the collation further comprises a plurality of shutter means that includes a shutter (12) in the object beam path and a plurality of shutters (11 and 13) for the plurality of reference beams, (please see Figures 1, 5-7, columns 1, and 7-9). The holographic images are recorded by simultaneously exposing the recording medium with the object beam and the reference beams respectively.

This reference has met all the limitations of the claims with the exception that it does not teach explicitly that the dual images being recorded are obtained by changing the image in the object beam. Hart in the same field of endeavor teaches to use projection means with liquid crystal panel to provide a plurality of different data slices to be displayed on the liquid crystal panel to provide different or changed object information to the object beam. It would then have been obvious to one skilled in the art to apply

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the teachings of Hart to provide means for changing different image information for the dual image hologram recording.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A. Chang, Ph.D.  
September 17, 2002

*Audrey Y. Chang*  
*Primary Examiner*  
*Art Unit 2872*

